King County
Department of Natural Resources and Parks
Wastewater Treatment Division
Technology Assessment and Resource Recovery

biosolids recycling

2005 Summary

Where do the biosolids go?

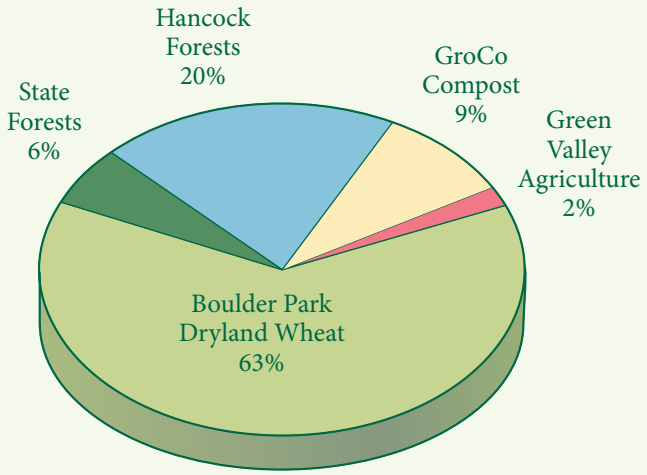
For more than 30 years, King County has been turning wastewater solids into a natural resource called biosolids. This valuable soil amendment can be used to build soils, revegetate barren areas, and fertilize crops and other plants.

All King County's biosolids are used beneficially in agriculture and forestry or as an ingredient in compost. When recycled into the soil, biosolids will:

- *retain soil moisture*
- *reduce erosion*
- *add organic matter*
- *improve soil tilth*
- *slowly release essential nutrients*

Amending the soil with biosolids compost.

King County was a pioneer in recycling biosolids. While other cities were landfilling and ocean-dumping their wastewater solids, King County was working with the University of Washington to find the safest, most effective uses for this nutrient-rich material. Our biosolids easily meet the most stringent quality requirements for land application. The U.S. Environmental Protection Agency has twice recognized our program as the best in the nation.



114,859 tons of biosolids
(26,399 tons of dry solids)

West Point: 48,250 tons (4 daily truckloads)

South Plant: 66,609 tons (6 daily truckloads)

King County spent about $5.5 million in 2005 on its biosolids management program. Land application and transportation to project sites averages $39 per ton. The program generated more than $100,000 in fertilizer revenue from customers.

Transportation to project sites	60%
Land application	20%
Land application support (monitoring, research, permits)	9%
Staff wages and benefits	11%
Total Budget	100%

For more information on biosolids, visit:
http://dnr.metrokc.gov/WTD/biosolids

Partnerships in Recycling

1 Boulder Park Soil Improvement Project encompasses more than 50,000 acres of dryland grain crops in Douglas County. More than 120 landowners and farmers participate in this project. Biosolids from other agencies are also recycled at this site, helping to satisfy local demand. In 2005, 4,600 acres of wheat were fertilized with King County biosolids.

2 Green Valley Project in the Yakima Valley includes more than 35,000 acres of hops, orchards, alfalfa, and managed rangeland. The project sponsors are also using biosolids and crop residuals to create a compost. In 2005, the following crops received King County biosolids: 245 acres of wheat, 789 acres of hops, and 19 acres of grapes.

3 GroCo Compost has been produced and marketed by a private company, GroCo Inc., for more than 25 years. This composted mixture of biosolids and sawdust is used in residential and commercial landscaping, home gardens, and soil restoration.

4 Mountains to Sound Greenway (MTSG) Biosolids Forestry Program is a partnership of private and public agencies that uses biosolids to fertilize and preserve working forests in eastern King County. In 2005, biosolids were applied to 213 acres of state forestlands and to 1,236 acres of Douglas-fir plantations in Hancock's Snoqualmie Forest.

Research and Education

King County is a founding member of the Northwest Biosolids Management Association (NBMA), which encourages environmentally sound management of biosolids. Members collaborate on research, share technical information, and offer training on biosolids recycling.

In 2005, the NBMA funded studies on how to make customized biosolids products to improve soils that have been disturbed by construction or contaminated by lead or arsenic, and began funding research on organic pollutants in biosolids and how they degrade in the environment. These studies were performed by researchers at the University of Washington, Washington State University, and the University of Arizona National Science Foundation Water Quality Center.

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201 South Jackson Street, Suite 512
Seattle, WA 98104

Continual Improvement

In 2005, King County's Wastewater Treatment Division continued implementation of its certified Environmental Management System (EMS) for biosolids. An EMS provides a better way to lead, manage, compete, stay in compliance, and enhance public understanding. Team members from West Point and South Treatment Plants, Industrial Waste Pretreatment, Environmental Planning, Biosolids Program, and biosolids application and haul contractors participated in our second third party internal audit process. Goals and benefits of EMS include:

- *Improving cross-sectional communications*
- *Preserving institutional knowledge*
- *Increasing environmental awareness*
- *Increasing efficiency and productivity*

Maximizing opportunities for continual improvement and maintaining EMS certification are our future goals.

The Biosolids Team

Peggy Leonard	*Biosolids Program Mgr.*	**206-684-1592**
Julie Adams	*Communications, EMS*	**206-684-1255**
Karen DuBose	*Monitoring, Reports, GIS*	**206-263-6064**
Sue Hennig	*Grit, Remediation*	**206-684-1403**
Roberta King	*Research, Forestry*	**206-684-1249**
Mark Lucas	*Green Valley, Compost, Transport*	**206-684-1248**
Doug Newlands	*Forestry, Engineering*	**206-263-3420**
Lisa Vogel	*Boulder Park, EMS Coordinator*	**206-263-3428**

For more information on biosolids recycling or for tours or lectures, see our Web pages at **http://dnr.metrokc.gov/WTD/biosolids** or call **206-684-1247.**

Alternative formats available
206-684-1247 (voice) or 711 (TTY)

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